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ABSTRACT

To determine the degree of knowledge and use of computer technology by elementary education majors at Henderson State University (Arkansas), 226 students were surveyed. Results indicated that: (1) 52 percent of the traditional students (age 24 and under) and 58 percent of the nontraditional students (over 24) felt inadequate with regard to computers; (2) the majority of students felt positive toward using computers for personal work and as instructional tools in a school setting; (3) approximately half the students did not feel proficient with word processing; (4) over 80 percent of students had not worked with databases and over 60 percent had not used or seen electronic grade or management systems; (5) over half felt competent enough to integrate the use of computers into elementary curricula; (6) students felt that teacher education programs should provide opportunities for students to use computers and electronic mail; and (7) 26 percent of traditional students and 40 percent of nontraditional students owned their own computer. A copy of the survey form is appended. (JDD)

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USE OF TECHNOLOGY BY UNDERGRADUATE ELEMENTARY EDUCATION MAJORS

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INTRODUCTION

Parents of the children we teach would find it difficult to imagine how frustrating life would be without a television set or microwave oven in their home. This frustration, however, is faced everyday by thousands of classroom teachers who wish to meet the diverse needs of their students without access to computers and appropriate software. The electronic conveniences for the home are accepted as standard, practical requirements for meeting the needs of the family. Apathy of parents and the general public toward the dire needs of our public schools is apparent, but is this apathy also shared by those who are entering our nation's teaching force?

As Marvin Cetron (1985) has stated, computers affect most Americans' lives. Many workers use computers on the job and more computers are being found in the home. We are at the point where consumers can book airline reservations or make reservations for a favorite restaurant. People today can play video games with others who live down the block or across the country. Technology is here!

Since this time many of the mid 1980's schools throughout America have incorporated the computer within their curriculum. There are few schools today that do not have or use computers in one form or another in their curriculum.

During the next two decades, major changes in the technological base of American society will alter knowledge

skills, and values we need to be capable workers and citizens (Dede, 1989). Part of the technological change in education will be evident by the electronic format in which classroom teachers present information to their students. Teachers will need to search for new and innovative ways to design classroom instruction that incorporates the latest software with other appropriate equipment (Lee & Parker, 1993). Research has shown that using technology as a teaching tool improves learning in such areas as developing skills, gaining content, and improving attitudes toward classroom instruction. While the research indicates positive educational reasons for using technology, inadequate teacher training in the use of technology has restricted the use of these teaching tools (Falk & Carlson, 1992).

METHOD OF PROCEDURE

In an effort to determine the degree of knowledge and use of of computer technology by elementary education majors at Henderson State University, a departmental survey regarding technology was recently given to 226 students. The **Technology Use Survey** was used to determine the current use of the microcomputer by these undergraduate students. Traditional and non-traditional students, as determined for the purpose of this study by the age of the student, were surveyed. Students who were age 24 and under were considered traditional students and students who were over 24 years of age were considered non-traditional students.

Of the 226 students who turned in the survey, 130 were traditional students and 96 were non-traditional students. Too, students were surveyed as to their respective classifications (Freshmen, Sophomores, etc.). Though it may not seem important to survey in terms of classification, many non-traditional students are beginning their college careers and have not had experience in use of computer technology.

RESULTS OF SURVEY

When tabulating the returned surveys, the questions were divided into four groups to better determine specificity of areas of student knowledge. Group 1, questions 1-8, dealt with information about word processing, data bases, and the use of both hard and floppy disc drives. Group 2, questions 9-14, dealt with whether or not students had taken computer courses and ownership of personal computers. Group 3, questions 15-23, dealt with knowledge of software and whether or not students felt they had adequate knowledge to include computers within their teaching of children. Group 4, questions 24-27 dealt with feelings and attitudes toward the use of computers.

GROUP 1 DATA

As can be seen from the recorded data, in dealing with word processing, fifty-one percent of the traditional students felt they were not proficient as opposed to forty-four percent of the non-traditional students. When dealing with electronic data

bases, eighty-six percent of the traditional students had not worked with data bases and sixty-eight percent had not used or seen electronic grade or management systems. This compared to eighty-two and sixty-five percent respectively for the non-traditional students. Though the majority of both traditional and non-traditional students knew how to "load" a program, "call-up" a program, copy a disc and format a disc, a distinct majority (eighty-four and sixty-seven percent respectively) felt they had insufficient knowledge in using software to create instructional materials.

GROUP 2 DATA

In looking at information concerning the use of interactive computer use in the classroom, a clear majority felt they did not have sufficient knowledge to use Linkway (IBM) or Hypercard (McIntosh) materials to create or design a lesson. Yet, surprisingly, most (fifty-seven percent and fifty-nine percent) felt competent enough to integrate the use of computers into curriculum for a subject taught in elementary grades.

GROUP 3 DATA

A clear majority of both traditional and non-traditional students who had completed a computer course felt that a teacher education program should provide opportunities for students to use computers and electronic mail. They also felt that education majors should own their own computer. However, only

twenty-six percent of traditional and forty percent of non-traditional students owned their own computer. Most students indicated that, if given the money or almost interest free financing, that they would purchase a computer.

GROUP 4 DATA

Because most students did not own a personal computer, it was not surprising that most students surveyed did not keep abreast of newer computer technologies and innovations. A high percentage (fifty-two and fifty-eight percent) of traditional and non-traditional students felt "inadequate" with regard to computers, the majority felt positive toward using computers for personal work and as instructional tools in a school setting.

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TECHNOLOGY USE SURVEY
Elementary Education Majors
Henderson State University

Directions: Please complete the following questions by writing in the spaces provided. The information will be used for research purposes only and confidentiality is assured.

Name: _____ **S.S.#**___ ___ _____

Major: _____ **Specialty** _____ **Age**_____

Classification: (Fr___) (Soph___) (Jr___) (Sr___) (Gr___)

	TRADITIONAL STUDENTS		NON-TRADITIONAL STUDENTS	
1. Are you proficient in using word processing?	YES	NO	YES	NO
TOTAL	(63)	(67)	(48)	(38)
2. Have you worked with electronic databases?	YES	NO	YES	NO
TOTAL	(18)	(107)	(16)	(72)
3. Have you every used any kind of electronic grade/record management system?	YES	NO	YES	NO
TOTAL	(41)	(87)	(29)	(53)
4. Do you know how to load a program on a hard drive?	YES	NO	YES	NO
TOTAL	(93)	(35)	(56)	(31)
5. Do you know how to "call-up" or retrieve a program stored on a hard drive?	YES	NO	YES	NO
TOTAL	(95)	(30)	(63)	(30)
6. Do you know how to copy a disk?	YES	NO	YES	NO
TOTAL	(69)	(58)	(44)	(46)
7. Do you know how to format a disk?	YES	NO	YES	NO
TOTAL	(70)	(58)	(49)	(45)
8. Do you know how to "call-up" the directory?	YES	NO	YES	NO
TOTAL	(96)	(31)	(51)	(34)

9. Are you proficent in using software to create instructional materials?

	YES	NO		YES	NO
TOTAL	(20)	(106)		(29)	(59)

10. Have you ever worked with elementary students using ILS or other network supported programs?

	YES	NO		YES	NO
TOTAL	(22)	(107)	TOTAL	(16)	(73)

11. Have you ever used Linkway or Hypercard to explore and/or to study a given topic?

	YES	NO		YES	NO
TOTAL	(36)	(93)	TOTAL	(22)	(63)

12. Have you ever used Linkway or Hypercard to design a lesson?

	YES	NO		YES	NO
TOTAL	(10)	(119)	TOTAL	(4)	(81)

13. Do you feel that you could effectively evaluate software for use in the elementary grades?

	YES	NO		YES	NO
TOTAL	(54)	(74)	TOTAL	(37)	(58)

14. Do you feel competent to integrate the use of computers into the curriculum for a subject taught in the elementary grades?

	YES	NO		YES	NO
TOTAL	(72)	(55)	TOTAL	(53)	(37)

15. Have you ever taken a course in the use of computers?

	YES	NO		YES	NO
TOTAL	(84)	(48)		(45)	(44)

16. Do you think that an education major should own his/her own personal computer?

	YES	NO		YES	NO
TOTAL	(107)	(20)	TOTAL	(71)	(12)

17. Do you own a computer?

	YES	NO		YES	NO
TOTAL	(33)	(96)		(36)	(53)

18. Do you think that it is imperative that the teacher education program provide opportunities for students to use electronic mail and other forms of telecommunications?

	YES	NO		YES	NO
TOTAL	(77)	(42)	TOTAL	(49)	(38)

19. Given the money or <u>almost interest free</u> financing, would you purchase a computer?

	YES	NO		YES	NO
TOTAL	(113)	(15)	TOTAL	(72)	(8)

20. Would you rate your current knowledge of computers as at least adequate?

	YES	NO		YES	NO
TOTAL	(28)	(45)	TOTAL	(16)	(33)

21. Do you currently use a computer almost on a daily basis?

	YES	NO		YES	NO
TOTAL	(25)	(81)	TOTAL	(31)	(57)

22. Should competence in computer use be required for all teacher education majors?

	YES	NO		YES	NO
TOTAL	(109)	(21)	TOTAL	(67)	(22)

23. Should every university student have ready access to computer network services (library, electronic mail, word processing and other software programs, data bases,....)?

	YES	NO		YES	NO
TOTAL	(123)	(5)	TOTAL	(83)	(6)

24. Do you keep abreast of newer computer technologies and innovations?

	YES	NO		YES	NO
TOTAL	(16)	(113)	TOTAL	(20)	(71)

25. Do you feel positive toward using computers for personal work and as an instructional tool in the school setting?

	YES	NO		YES	NO
TOTAL	(103)	(26)	TOTAL	(63)	(23)

26. Do you feel "inadequate" with regard to computers?

	YES	NO		YES	NO
TOTAL	(67)	(61)	TOTAL	(52)	(37)

27. Do you feel that computers are having a detrimental influence on society?

	YES	NO		YES	NO
TOTAL	(65)	(60)	TOTAL	(33)	(56)